

Appl. No. : 10/624,864
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AMENDMENTS TO THE CLAIMS

Please amend the Claims as follows:

1. **(Currently Amended)** An attachment device that is expandable from a first state to a second state for securing an endovascular apparatus to an interior wall of a lumen, the device comprising:

a plurality of telescoping arms, the arms being operatively connected to one another so as to form a perimeter of variable length; and

~~a fixation component operatively coupled to the plurality of arms to anchor the attachment device to the wall of a lumen when the attachment device is expanded to the second state, wherein the telescoping arms are operatively coupled to one another at an angle so that multiple telescoping arms form the shape of a M.~~

2. **(Withdrawn)** The attachment device of Claim 1, wherein the longitudinal axes of the arms are coplanar in the first state.

3. **(Currently amended)** The attachment device of Claim 1, wherein the ~~arms are connected to one another in an M configuration perimeter of variable length consists essentially of the plurality of telescoping arms arranged so as to form the shape of multiple Ms, and wherein the shape of the M is visible when viewed from a plane containing the perimeter of variable length, but is not visible when the device is viewed from a direction perpendicular to the plane containing the perimeter of variable length.~~

4. **(Original)** The attachment device of Claim 1, wherein the ends of adjacent arms are operatively connected for pivotable movement.

5. **(Original)** The attachment device of Claim 1, wherein each telescoping arm comprises incrementally-sized segments that are slideably received within one another.

6. **(Original)** The attachment device of Claim 5, wherein the segments are tubular.

7. **(Original)** The attachment device of Claim 5, wherein each of the plurality of arms further comprises a one-way latch that allows the arm to extend but not to contract.

8. **(Original)** The attachment of Claim 7, wherein the one-way latch comprises at least one groove associated with a first segment of a telescoping arm and at least one tooth

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associated with a second, adjacent segment of the telescoping arm, the at least one groove and at least one tooth being aligned for engagement with one another as the first segment slides relative to the second segment.

9. **(Withdrawn)** The attachment device of Claim 1, wherein the fixation component is located at the juncture of adjacent telescoping arms.

10. **(Original)** The attachment device of Claim 1, wherein the arms are made of stainless steel.

11. **(Original)** The attachment device of claim 1, wherein the arms are made of a nickel-titanium alloy.

12. **(Previously Presented)** The attachment device of Claim 1, wherein the attachment device when in the first state possesses a first profile that is sufficiently small to permit it to be percutaneously inserted via catheter into a patient's femoral artery.

13. **(Withdrawn)** The attachment device of Claim 1, wherein at least one of the plurality of telescoping arms includes an aperture for releasing an adhesive contained within the at least one arm.

14. **(Currently Amended)** An attachment device that is expandable from a first state to a second state for securing an endovascular apparatus to an interior wall of a lumen, the device comprising:

an upper expandable device and a lower expandable device, each expandable device comprising:

a plurality of telescoping arms, the arms being operatively connected to one another so as to form a perimeter of variable length, the telescoping arms being connected end to end so as to form the shape of a series of connected Ms; and

~~a fixation component operatively coupled to the plurality of arms to anchor the expandable device to the wall of a lumen when the attachment device is expanded to the second state, wherein the upper expandable device is coupled to the lower expandable device such that the fixation component of the upper expandable device is angularly offset from the fixation component of the lower expandable device.~~

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15. **(Original)** The attachment device of Claim 14, wherein the upper expandable device is coupled to the lower expandable device by an O-ring seal.

16. **(Currently Amended)** An endovascular apparatus comprising:

a tubular sleeve having a cranial end and a caudal end, the tubular sleeve suitable for forming a flow path for by-passing an aneurysm or vascular blockage; and

first and second attachment devices attached to the cranial and caudal ends of the tubular sleeve, respectively, to hold the sleeve open and secure the sleeve to a wall of a lumen, the first and second attachment devices being expandable from a first state to a second state and each comprising:

a plurality of telescoping arms, the arms being operatively connected to one another so as to form a perimeter of variable length, wherein the arms comprise a segment, wherein the segments are connected in the shape of a V, and wherein a plurality of alternately facing V shaped segments define the perimeter of variable length; and

~~a fixation component operatively coupled to the plurality of arms to anchor the attachment device to a wall of a lumen when the attachment device is expanded to the second state.~~

17. **(Original)** The endovascular apparatus of Claim 16, further comprising a third attachment device coupled to the first attachment device by a plurality of support columns and positioned above the first attachment device such that the first attachment device is positioned between the second and third attachment devices, the third attachment device comprising:

a plurality of telescoping arms, the arms being operatively connected to one another so as to form a perimeter of variable length; and

~~a fixation component operatively coupled to the plurality of arms to anchor the attachment device to a wall of a lumen when the attachment device is expanded to the second state.~~

18. **(Original)** The endovascular apparatus of Claim 17, wherein the support columns are telescoping support columns of variable length.

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19. **(Original)** The endovascular apparatus of Claim 18, wherein the support columns comprise a plurality of incrementally-sized segments that are slideably received within one another.

20. **(Original)** The endovascular apparatus of Claim 19, wherein at least one of the telescoping support columns includes an aperture for releasing an adhesive contained within the support column.

21. **(Original)** The endovascular apparatus of Claim 17, wherein the third attachment device is positioned above a patient's renal arteries and the first attachment device is positioned below the patient's renal arteries.

22. **(Original)** The endovascular apparatus of Claim 16, wherein the first and second attachment devices are coupled together by a plurality of support columns.

23. **(Original)** The endovascular apparatus of Claim 16, further comprising at least one spring for exerting a force on at least one of the first and second attachment devices to prevent said attachment device from collapsing from the second state to the first state.

24. **(Original)** The endovascular apparatus of Claim 16, further comprising at least one telescoping arm in an M configuration for exerting a force on at least one of the first and second attachment devices to prevent said attachment device from collapsing from the second state to the first state.

25. **(Currently Amended)** An endovascular apparatus comprising:

a tubular sleeve having a cranial end, a first caudal branch, and a second caudal branch; and

first, second, and third expandable attachment devices attached to the cranial end, the first caudal branch, and the second caudal branch of the tubular sleeve, respectively, to hold the sleeve open and secure the sleeve to a wall of a lumen, the first, second, and third attachment devices being expandable from a first state to a second state and each comprising:

a plurality of telescoping arms, the arms being operatively connected to one another so as to form a perimeter of variable length, and the arms further being operatively coupled to one another at an angle so that four telescoping arms form the

shape of an M configuration when viewed from within a plane defined by the perimeter of variable length; and

~~a fixation component operatively coupled to the plurality of arms to anchor the attachment device to a wall of a lumen when the attachment device is expanded to the second state.~~

26. **(Original)** The endovascular apparatus of Claim 25, further comprising a fourth attachment device coupled to the first attachment device by a plurality of support columns and positioned above the first attachment device such that the first attachment device is positioned between the fourth attachment device on one hand and the second and third attachment devices on the other hand, the fourth attachment device comprising:

a plurality of telescoping arms, the arms being operatively connected to one another so as to form a perimeter of variable length; and

a fixation component operatively coupled to the plurality of arms to anchor the attachment device to a wall of a lumen when the attachment device is expanded to the second state.

27. **(Original)** The endovascular apparatus of Claim 25, further comprising a fourth attachment device attached to the cranial end of the tubular sleeve below the first attachment device but above a junction of the first caudal branch and the second caudal branch such that the fourth attachment device is positioned between the first attachment device on the one hand and the second and third attachment devices on the other hand, the fourth attachment device comprising:

a plurality of telescoping arms, the arms being operatively connected to one another so as to form a perimeter of variable length; and

a fixation component operatively coupled to the plurality of arms to anchor the attachment device to a wall of a lumen when the attachment device is expanded to the second state.

28. **(Currently Amended)** An attachment device that is expandable from a first state to a second state for securing an endovascular apparatus to an interior wall of a lumen, the device comprising:

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a plurality of telescoping arms forming a closed loop, wherein the closed loop defines a plane by its circumference, wherein each telescoping arm is connected to another telescoping arm above or below the plane at least one telescoping arm comprising a plurality of segments; and

~~a fixation component operatively coupled to the at least one telescoping arm to anchor the attachment device to the wall of a lumen.~~

29. (Original) The attachment device of Claim 28, further comprising a plurality of telescoping arms coupled together in an M configuration.

30. (Currently amended) ~~An endovascular apparatus comprising:~~ The attachment device of Claim 3, wherein the telescoping arms are configured so that an increase in the perimeter of variable length results in an increase in a height of the device, wherein the plurality of telescoping arms are connected to each other above or below a center of the plane containing the perimeter of variable length, and wherein an angle between the telescoping arms, when viewed from the plane defined by the perimeter of variable length, is smaller when the device is collapsed and larger when the device is expanded.

~~a tubular sleeve having a cranial end and a caudal end; and~~
~~first and second attachment devices attached to the cranial and caudal ends of the tubular sleeve, respectively, to hold the sleeve open and secure the sleeve to a wall of a lumen, the first and second attachment devices being expandable from a first state to a second state and each comprising:~~

~~at least one telescoping arm comprising a plurality of segments; and~~
~~a fixation means operatively coupled to the at least one telescoping arm to anchor the attachment device to the wall of a lumen.~~

31. (Withdrawn) An endovascular device for percutaneous deployment of an endovascular apparatus, the device comprising:

a telescoping sheath and catheter, including a plurality of incrementally-sized segments that are slideably received within one another;
an introducer slideably received within the sheath; and
an inflatable balloon slideably received within the sheath.

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32. **(Currently Amended)** The attachment device of Claim 28, wherein the fixation component is not the same structure that retains the attachment device in the second state wherein the telescoping arms are further configured so that an increase in the perimeter of variable length results in an increase in the height of the device, wherein said height is defined as a dimension perpendicular to a plane containing the perimeter of variable length.

33. **(Withdrawn)** The attachment device of Claim 28, wherein said fixation component is external to said telescoping arm.

34. **(Withdrawn)** The attachment device of Claim 28, wherein said fixation component is attached to an outer surface of the segment of the telescoping arm with a largest diameter.

35. **(Withdrawn)** The attachment device of Claim 28, wherein said fixation component is attached to an end of said telescoping arm.

36. **(New)** An attachment device that is expandable from a first state to a second state for securing an endovascular apparatus to an interior wall of a lumen, the device comprising a series of telescoping arms connected so as to form a perimeter, said perimeter defining a first plane when viewed from a direction along an axis that is perpendicular to the perimeter, said perimeter being expandable in said first plane so as to allow for a relatively larger perimeter, and said telescoping arms connected so as to allow expansion of the attachment device in a direction perpendicular to said first plane.

37. **(New)** An attachment device that is expandable from a first state to a second state for securing an endovascular apparatus to an interior wall of a lumen, the attachment device comprising a plurality of telescoping arms, wherein at least two telescoping arms are connected to one another so as to form an angle between the two telescoping arms, wherein, when the attachment device is in the first state, the angle between the two telescoping arms is a first amount, and when the attachment device is in the second state, the angle between the two telescoping arms is a second amount, wherein said second amount is greater than said first amount.